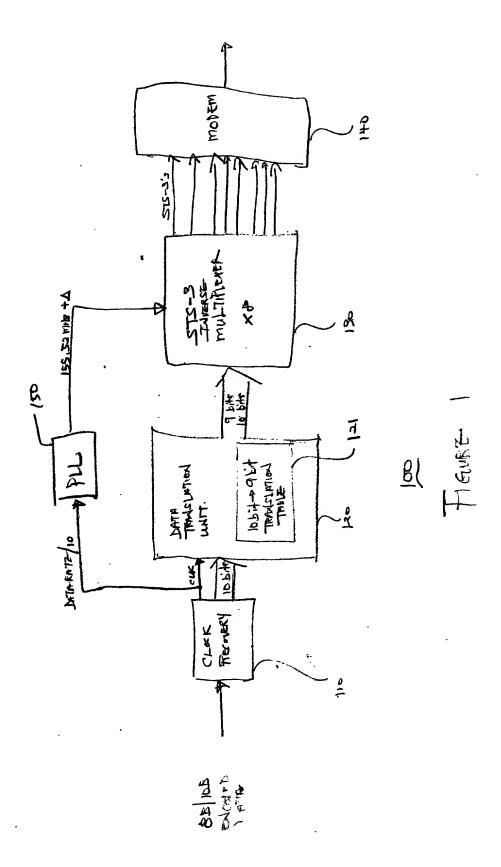
Express Mail: ET161051159US Inventors: Jorgenson et al.

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Title: Method and Apparatus for Providing a Gagabit Ethernet Circuit Pack

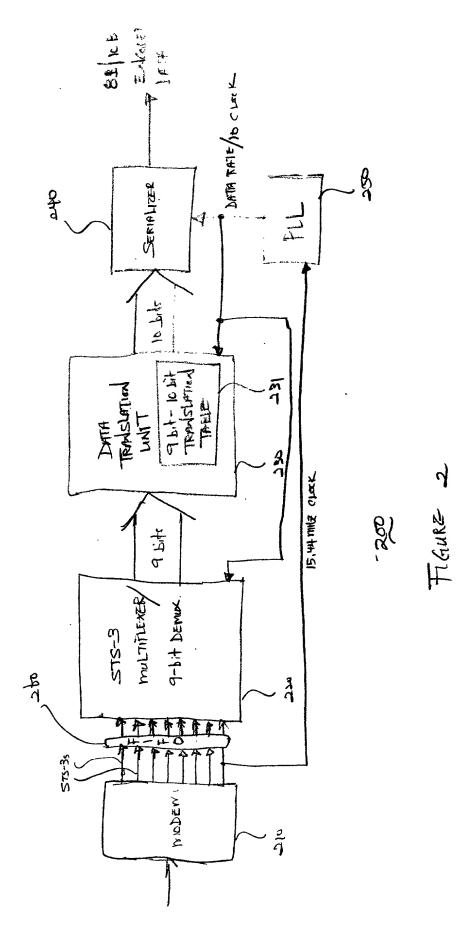


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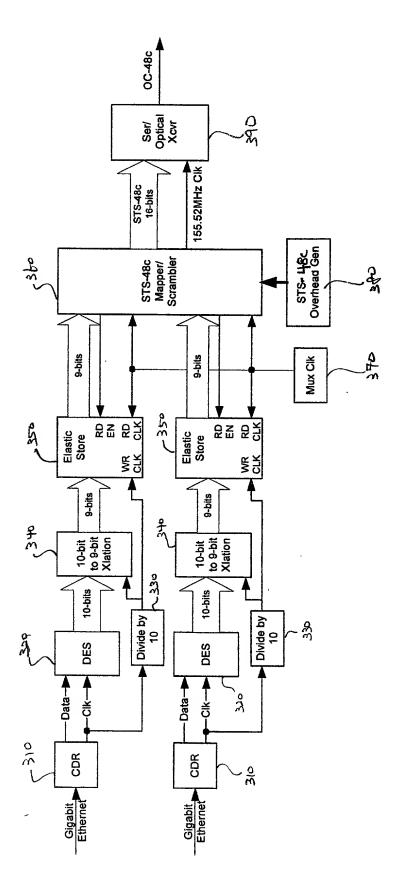


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Flaure 3

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Title: Method and Apparatus for Providing a Gagabit Ethernet Circuit Pack

Attorney: Seong-Kun Oh Sierra Patent Group, Ltd.

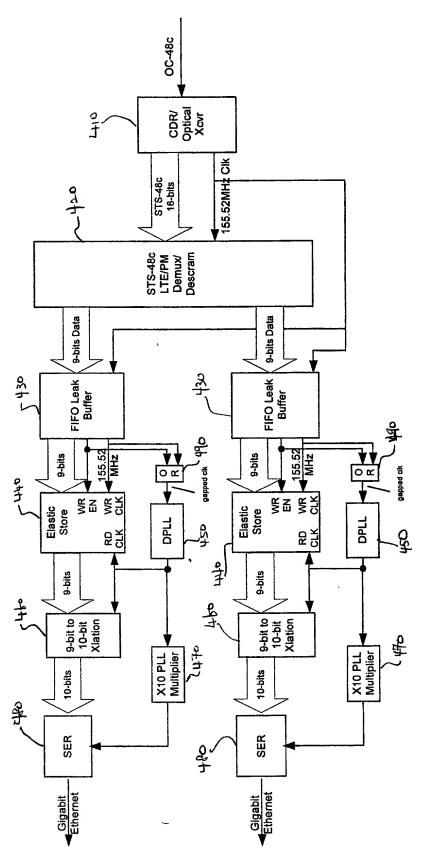


FIGURE 4

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Attorney: Seong-Kun Oh

Sierra Patent Group, Ltd.

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Attorney: Seong-Kun Oh Sierra Patent Group, Ltd.

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Inventors: Jorgenson et al.

Filed: May 22, 2001

Docket No.: KES-00-001

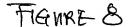
Title: Method and Apparatus for Providing a Gagabit Ethernet Circuit Pack Attorney: Seong-Kun Oh

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BYTE	DEFINITION	VALUE
AI	Framing byte	0xF6
A2	Framing byte	0x28
BIP-8	BIP-8 per STS-1 as defined in GR-253	N/A
BR	Bit Rate ID byte	First 8-bit byte of bit rate code that corresponds to a software defined bitrate. Bit rates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable.
BRI	Bit Rate ID byte	Second 8-bit byte of bit rate code that corresponds to a software defined bitrate. Bit rates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable.
ID1	Frame identification Byte	Least significant 6 bits correspond to the most significant 6 bits of the 14-bit ID code.
ID2	Frame identification byte	Least significant 8 bits of the 14 bit ID code.
ID3	Frame identification byte	Least significant 3 bits correspond to STS# 0 through 7.
R	8 bit fixed stuff	0xFF
R1	9 bit fixed stuff	0x1FF
R2	10 bit fixed stuff	0x3FF
I	9 bit data	N/A
Ii	Fibre Channel 10 bit data	N/A
12	VRH-RZ 10 bit data	For 1129.84 Mb/s, 12=WWWIII (I=Information bit) For 564.92 Mb/s, 12=11111iiii
PI	P stuff byte indication. Stuffing used to prevent FIFO overflows	0xFF ⇒ P byte = R1,0x00 ⇒ P byte = I
PI1	PI stuff byte indication. Stuffing used to prevent FIFO overflows	0xFF => P1 byte = R2,0x00 => P1 byte = I1
P	9-bit stuff	I or R1 dependent on STS #. P shall need to be I when needed to prevent a FIFO overflow; otherwise, it's R1.
P1		II or R2 dependent on STS #. P1 shall need to be II when needed to prevent a FIFO overflow; otherwise, it's R2.
ANS	Alarm Notification Signal byte	0x00 => normat,0xFF => alarm
		أستوهم والمستوان والمراب والمستوان والمستوان والمستوان والمستوان والمستوان والمستوان والمستوان والمستوان





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Attorney: Seong-Kun Oh Sierra Patent Group, Ltd.

## VRVH pseudo STS-3 Frame

A1	A1	A1	A2	A2	A2	R	ANS	2 R	3 BIP-8	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	R(b)	R(b)
BR	BR1	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	R(b)	R(b)
ID1	ID2	ID3	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	R(b)	R(b)
R	R	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	R(b)	R(b)
R	R	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	(V)R(b) or (!V)I(n)	R(b)
R	R	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	(K)R(b) or (!K)I(n)	R(b)
R	R	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	(H)R(b) or (!H)I(n)	R(b)
R	R	R	R	R	R	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	(G)R(b) or (!G)I(n)	R(b)
R	R	R	R	PI(d)	PI(d)	R	R	2 R	3 R	(X) I(n)	(D) R(a)	(E) R(b)	(Y) I(n)	(S)R(b) or (!S)I(n)	P(d)

FIGURE 9

## Configuration Parameters for each data rate

Parameter	Gigabit Ethernet	Fibre Channel	1.129984Gbps	1.114112 Gbps
X	109	95	98	97
	0	1	2	2
n D	5	7	7	2
D	$\frac{3}{0}$	0	0	0
<u>a</u>	5	14	2	9
E	<u> </u>	2	2	2
<u>b</u>	100	89	98	96
Y	108	1	1	1
d	0	1	1	1
V	<u> </u>	1	1	1
K	1	0	1	0
H	1	0	1	10
G	1	0	1	
S	1	0	0	_

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Attorney: Seong-Kun Oh Sierra Patent Group, Ltd.

## Frame byte definitions

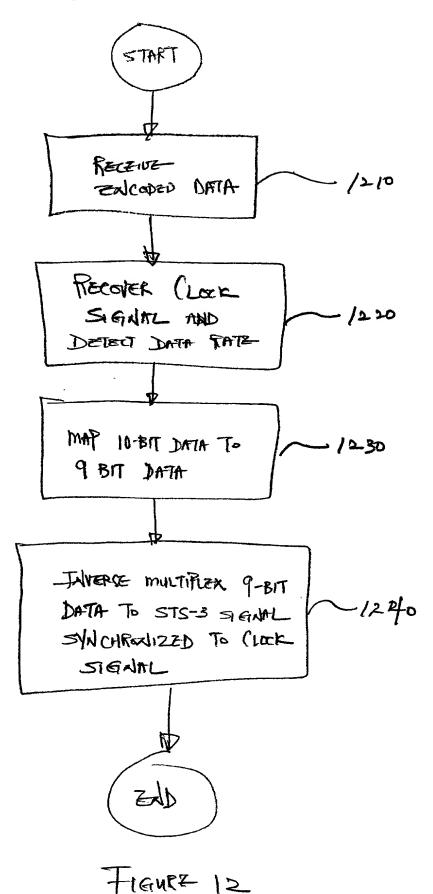
BYTE	DEFINITION	VALUE
A1	Framing byte	0xF6
A2	Framing byte	0x28
BIP-8	BIP-8 per STS-1 as defined in GR-253	N/A
BR(1)	Bit Rate ID byte	16-bits correspond to a software defined bitrate. Bitrates should include: Fibre Channel, Gig-E, 1130 RZ, 565 RZ, Unavailable
ID1	Frame identification Byte	Least significant 6 bits correspond to the most significant 6 bits of the 14-bit ID code.
ID2	Frame identification byte	Least significant 8 bits of the 14 bit ID code.
ID3	Frame identification byte	Least significant 3 bits correspond to STS# 0 through 7.
R(0)	8 bit fixed stuff	0xFF
R(1)	9 bit fixed stuff	0x1FF
R(2)	10 bit fixed stuff	0x3FF
I(0)	9 bit data	N/A
I(1)	Fibre Channel 10 bit data	N/A
I(2)	VRH-RZ 10 bit data	For 1129.84 Mb/s, I2=iiiiiiiiii (i=information bit) For 564.92 Mb/s, I2=11111iiiii
PI(0)		0xFF => P byte = R1, 0x00 => P byte = I
PI(1)	P1 stuff byte indication. Stuffing used to prevent FIFO overflows.	0xFF => P1 byte = R2, 0x00 => P1 byte = I1
P(0)	9-bit stuff	I or R1 dependent on STS #. P shall need to be I when needed to prevent a FIFO overflow; otherwise, it's R1.
P(1)	10-bit stuff	Il or R2 dependent on STS #. P1 shall need to be Il when needed to prevent a FIFO overflow; otherwise, it's R2.
ANS	Alarm Notification Signal byte	0x00 => normal, 0xFF => alarm



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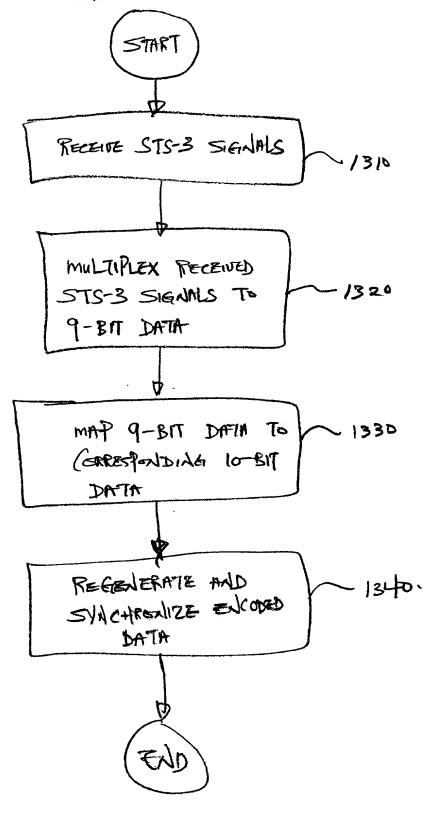


FIGURE 13